



49

ABSTRACT OF THE DISCLOSURE

A polymerization process is provided for the preparation of graft (co)polymers. An embodiment of the polymerization process of the present invention comprises copolymerizing macromonomers with (co)monomers utilizing a macroinitiator to form a graft (co)polymer. A further embodiment of a polymerization process of the present invention comprises (co)polymerizing macromonomers and monomers with a graft copolymer macroinitiator to form a block-graft (co)polymer. Another embodiment of the process of the present invention comprises (co)polymerizing macromonomers and monomers with a compatible macroinitiator. The chemical and structural properties of the product graft (co)polymer may be controlled by use of a compatible macroinitiator and the functional group on the macromonomer which effect the relative rates of incorporation of the macromonomer and the monomer. Graft (co)polymers may be prepared with homogeneous or heterogeneous distribution of grafts. In a further embodiment of the present invention, a copolymer with well-defined branches or grafts with predetermined molecular weights and low polydispersities can be obtained by preparing macromonomers by a living or a living/controlled polymerization process.

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